

# VIRGINIA NUCLEAR ENERGY CONSORTIUM

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VNECA Meeting

Richmond, VA

March 23, 2017

[www.virginianuclear.org](http://www.virginianuclear.org)



# 2016-17 Strategic Priorities

- Advocacy for nuclear-supportive public policy
- Enhanced nuclear research opportunities for Virginia Universities
- Actions to meet nuclear and overall energy industry workforce needs
- Support for CAER/IST research center
- Public information and education
- Policy-maker education, information and briefings

# VNEC Activities

- Continued support for the CAER
  - Board member
  - Participation in discussions with Liberty University
    - Regarding the purchase and continuation of the CAER
- Congressional Delegation Briefings
  - Developed a Federal Issues Priorities document Active support for Virginia reactor relicensing
- Active support for Virginia reactor relicensing
  - Testified in front of the Virginia House of Delegates and Senate
- “Day on the Hill” in Richmond for nuclear engineering students

# VNEC Activities

- Feb. 28 Presentation to Governors Low-Carbon Cabinet Working Group
- Invited participant at national nuclear summit in Washington DC held by Third Way--only state organization invited
- Statewide Energy Workforce Pathways Conference, jointly with VA Community College System, Department of Education and Virginia Energy Workforce Consortium—  
March 3<sup>rd</sup>
  - Goal is to identify consensus workforce policy issues that can be taken to state and federal policymakers for consideration
  - Over 100 attendees – educators, energy industry and state officials
  - Developing Workforce Action Agenda

# Recommendations for the Commonwealth of Virginia

- Recognize and give credit for the Value of Clean Air Nuclear in State Energy Policy and a Clean Power Plan
- Support License Extensions for Existing Nuclear Generation Facilities
- Support new nuclear generation facilities as may be proposed
- Support initiatives to enhance nuclear and general energy workforce pathways, through Community Colleges, STEM programs and University training--consider allocation of additional resource for those programs.
- Support efforts to bring more US Department of Energy nuclear research grants and opportunities into Virginia
- Support the Center for Advanced Energy Research in Bedford, VA.
- Support existing university nuclear training programs
- Support a nuclear engineering scholarship program



## Federal Issue Priorities for the Virginia Nuclear Energy Consortium

### The Integrated System Test (IST) Facility

- Support the FY17 House Energy & Water Development Appropriations language and funding which advises the Department to include thermal hydraulics research as part of DOE-NE's National Scientific Users Facilities program, and therefore have the Senate recede to the House position.
  - Specifically, the Committee said, "...and \$31,100,000 for the Nuclear Science User Facilities. Within available funds for the Nuclear Science User Facilities, the Department shall continue the focus on irradiation testing and examinations of irradiated materials and is also encouraged to assess research in thermal hydraulics, multi-physics code validation, and advancements in instrumentation and data control systems."
  - *Note: the FY17 DOE-NE budget request for NSUF was tagged at \$23,285M; therefore about \$8M to apply towards this language.*

### Background on the Integrated System Test (IST) Facility

- The Integrated System Test (IST) facility, located within the Center for Advanced Engineering Research (CAER) in Forest, Virginia, is a full height and volume-scaled nuclear steam supply system outfitted with instrumentation and control systems dedicated to gathering high quality, high fidelity test data. The facility was originally constructed and operated to perform thermal-hydraulic integrated system testing in support of the licensing of BWXT's mPower small modular reactor design. However, the facility can be applied beyond small modular reactor designs to virtually all light water reactor designs.
- This one-of-a-kind test facility contains unique testing capabilities possible at operating pressures and temperatures seen in typical pressurized water reactor designs.
- For the last year two years BWXT has been following a strategy to make the IST an open research platform to meet the needs of light water sustainability and all programs under the DOE that promote the safe operation of current nuclear designs and advanced measurement and analysis technology.
- Construction of the facility was a \$30M investment by BWXT which can now benefit the government and the user facility community.
- The IST is one of four similar facilities, but the only one in the US.

### Background – Part of DOE's Gateway for Accelerated Innovation in Nuclear (GAIN) Initiative

The Department of Energy's GAIN initiative fact sheet says:

*Through GAIN, DOE is making its state-of-the-art and continuously improving RD&D infrastructure available to stakeholders to achieve faster and cost-effective development of innovative nuclear energy technologies toward commercial readiness. The capabilities accessible through GAIN include: Experimental capabilities with primary emphasis on nuclear and radiological facilities but also including other testing capabilities (e.g. thermal-hydraulic loops, control systems testing, etc.). Computational capabilities along with state-of-the-art modeling and simulation tools. Information and data through knowledge and validation center. Land use and site information for demonstration facilities.*



## Sustaining Nuclear Jobs – Near-Term Actions

The US operates a fleet of nearly 100 commercial nuclear power reactors. They supply clean, affordable, and dependable electricity that meets about 20 percent of US demand. The US nuclear industry is a tremendous economic engine, annually contributing \$60 billion to US GDP while employing more than 100,000 people and supporting nearly 400,000 more jobs across the economy.

Action is required on several fronts to ensure the existing US nuclear fleet is sustained, more plants are built at home, and US companies can win more nuclear power plant contracts overseas. These actions will enable the US to retain its high-paying nuclear energy jobs and create new technologies that can allow US firms to win new business and create new American jobs:

- Enable continued operations of existing reactors
- Expand construction of new reactors
- Promote increased nuclear exports

### VNEC also supports:

- Clean Energy Portfolio Standards for VA to include nuclear among clean energies - recognition of the value of nuclear power as a non-emitting economic base load energy source
- The selection of Kristine Svinicki as NRC Chairman
- H.R.431 - Nuclear Energy Innovation Capabilities Act of 2017
  - Encourages public-private partnerships for advanced nuclear R&D
  - Supports the streamlining of the NRC regulatory process for advanced reactors, while ensuring the quality and thoroughness of the review
  - Suggest the creation of a "National Nuclear Innovation Center" as a joint initiative of DOE-NRC
- Congress to take action on the issue of long term management of used nuclear fuel:
  - Interim consolidated dry cask storage
  - Licensing, building and using Yucca Mountain
  - Selecting a longer term next repository through a consensus based process
- VA nuclear energy programs would be willing to partner into a consortium to support the DOE needs; For example:
  - The DoE Office of Nuclear Energy (NE) is sponsoring establishment of a Nuclear Energy Knowledge and Validation Center (NEKVaC)
    - Opportunity for VA nuclear energy to be a resource for addressing methods in the validation of advanced modeling and simulation codes used for modern nuclear plant and fuel cycle analyses.
  - As mentioned above H.R.431 suggests the creation of a National Nuclear Innovation Center

# ENERGY WORKFORCE AND EDUCATION PATHWAYS

Presented by:



## Meeting Agenda

March 3, 2017

8:30 am – 2:00 pm

Library of Virginia

800 East Broad Street, Richmond, VA

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| <b>8:30 am</b>  | <b>Registration</b>  |
| <b>9:00 am</b>  | <b>Welcome Remarks</b><br><b>Jennifer Gentry</b> , Vice Chancellor, Institutional Advancement  |
| <b>9:05 am</b>  | <b>Future Workforce</b><br><b>David A. Christian</b> , Executive Vice President and Chief Innovation Officer, Dominion   |
| <b>9:30 am</b>  | <b>Virginia's Energy Industry Today Panel Discussion</b><br><b>Tom Miller</b> , Department of Energy<br><b>Beth Stockner</b> , Virginia Gas Association<br><b>Dr. Matthew Gardner</b> , Dominion<br><b>Bob Granata</b> , Newport News Shipbuilding   |
| <b>10:20 am</b> | <b>Break</b>   |
| <b>10:30 am</b> | <b>Opportunity in Virginia's Energy Industry Panel Discussion</b><br><b>Ann Randazzo</b> , Center for Energy Workforce Development<br><b>Matt Kellam</b> , Dominion & Virginia Energy Workforce Consortium<br><b>Nat Marshall</b> , BWXT & Virginia Board of Workforce Development<br><b>Stephanie Briggs</b> , Washington Gas |
| <b>11:20 am</b> | <b>Break</b>   |
| <b>11:30 am</b> | <b>Building a Workforce Pipeline Panel Discussion</b><br><b>Dr. Sama Bilbao y Leon</b> , Virginia Commonwealth University<br><b>Dr. Michael A. Reynolds</b> , John Tyler Community College<br><b>Dr. Lynn Basham</b> , Virginia Department of Education<br><b>Allison Rowett</b> , AREVA                                       |
| <b>12:30 pm</b> | <b>Lunch</b>   |
| <b>1:15 pm</b>  | <b>Next steps, Wrap Up and Closing Session</b><br><b>Sara Dunnigan</b> , Executive Director, Virginia Board of Workforce Development   |
| <b>2:00 pm</b>  | <b>Adjourn</b>   |

# Contact us

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